



# unit 3

## Microeconomics: Markets, Prices, and Business Competition

**Chapter 7**  
Demand and Supply

**Chapter 8**  
Business Organizations

**Chapter 9**  
Competition and  
Monopolies

### In this unit, read to find out...

- how your consumer decisions affect prices.
- what risks and expectations you'll have when starting a business.
- why competition among businesses is vital to the price you pay for goods and services.



# chapter 7

# Demand and Supply

## The **BIG** Ideas

1. Scarcity is the basic economic problem that requires people to make choices about how to use limited resources.
2. Buyers and sellers voluntarily interact in markets, and market prices are set by the interaction of demand and supply.

## Why It Matters

In this chapter, read to learn about how the relationship between supply and demand sets the prices you pay for goods and services.

### Economics ONLINE

**Chapter Overview** Visit the *Economics Today and Tomorrow* Web site at [glencoe.com](http://glencoe.com) and click on **Chapter 7—Chapter Overviews** to preview chapter information.



## GUIDE TO READING

### Section Preview

In this section, you will learn about the law of demand and how it affects choices you make.

### Content Vocabulary

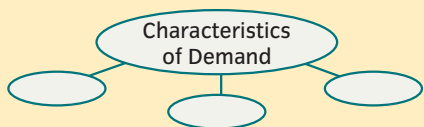
- demand (p. 170)
- supply (p. 170)
- market (p. 170)
- voluntary exchange (p. 171)
- law of demand (p. 172)
- quantity demanded (p. 172)
- real income effect (p. 173)
- substitution effect (p. 173)
- utility (p. 174)
- marginal utility (p. 174)
- law of diminishing marginal utility (p. 174)

### Academic Vocabulary

- analysis (p. 171)
- alternate (p. 173)

### Reading Strategy

**Organizing** As you read this section, use a diagram similar to the one below to list characteristics of demand.



## PRODUCTS In The NEWS

—from *BusinessWeek*

**THE DEMAND FACTOR** Once the word hits the street, hundreds of teens start lining up at stores. So strong is demand that new releases happen only on weekends—so kids won't skip school. When the doors open, they sell out in hours. Tickets for the current Eminem tour? The new iPod music player? Nope. We're talking about a basic basketball sneaker, Nike Inc.'s Air Force 1.

How do you keep a basic sneaker hot for a quarter-century? . . . Nike creates consumer longing by keeping supplies tight and releasing collectible versions with minimal hype.

Every two months or so, Nike unleashes a newly tweaked shoe. . . . Each release involves roughly 350,000 to 500,000 pairs of shoes shipped nationwide, and each store gets only about 25 to 30.



▲ Nike's Air Force 1 sneaker

**T**he word *demand* has a special meaning in economics. Most American teenagers own a pair of sneakers. Because of high demand and high price, however, not everyone who wants a pair of Nike Air Force 1 sneakers is able to acquire this particular brand. As you read this section, you'll learn that the idea of demand centers on people being both willing *and* able to pay for a product or service.



# The Marketplace

**Main Idea** In a market economy, buyers and sellers set prices.

**Economics & You** Have you ever sold something on eBay? How did you decide what price to set? Read on to learn how people like eBay users follow basic ideas of demand and supply.

**demand:** the amount of a good or service that consumers are able and willing to buy at various possible prices during a specified time period

**supply:** the amount of a good or service that producers are able and willing to sell at various prices during a specified time period

**market:** the process of freely exchanging goods and services between buyers and sellers

When you buy something, do you ever wonder why it sells at the particular price you paid? People do not usually think that individual consumers have any influence over the price of an item. In a market economy, however, consumers collectively have a great deal of influence on the prices of all goods and services. To understand this, let's look first at how people in the marketplace decide what to buy and at what price. This is **demand**. Later, we'll examine how the people who want to sell goods and services decide how much to sell and at what price. This is **supply**.

What is the marketplace? A **market** represents the freely chosen actions between buyers and sellers of goods and services. A market for a particular item or service can be local, national, international, or a combination of these. (See **Figure 7.1** at the bottom of this page for more information on markets.)

## Figure 7.1 Examples of Markets

■ When you hear the term “market,” you probably think of a supermarket, clothing store, record shop, or other store you have visited. However, a “market” can be any place where buyers and sellers come together.



**A. Stores** Any place where you can buy food, clothing, or other items is a market.

**B. Services** A service is any activity that one person performs for another for a fee. Examples of services include haircutting, tutoring, and dental checkups. Any time or place these services are performed is an example of a market.






In a market economy, individuals decide for themselves the answers to the WHAT?, HOW?, and FOR WHOM? economic questions that you studied back in Chapter 2.


The basis of activity in a market economy is the principle of **voluntary exchange**. A buyer and a seller exercise their economic freedom by working toward satisfactory terms of an exchange of goods or services. For example, the seller of an automobile sets a certain price based on his or her view of market conditions. The buyer, through the act of buying, agrees to the product and the price. In order to make the exchange, both the buyer and the seller must believe they will be better off—richer or happier—after the exchange than before.


In a market economy, buyers have many choices about how to spend their income, and sellers have many choices about how to sell their products. With voluntary exchange, the seller's problem of what to charge and the buyer's problem of how much to pay is solved voluntarily in the market. Supply and demand **analysis** is a model of how buyers and sellers operate in the marketplace. Such analysis is a way of explaining cause and effect in relation to price.

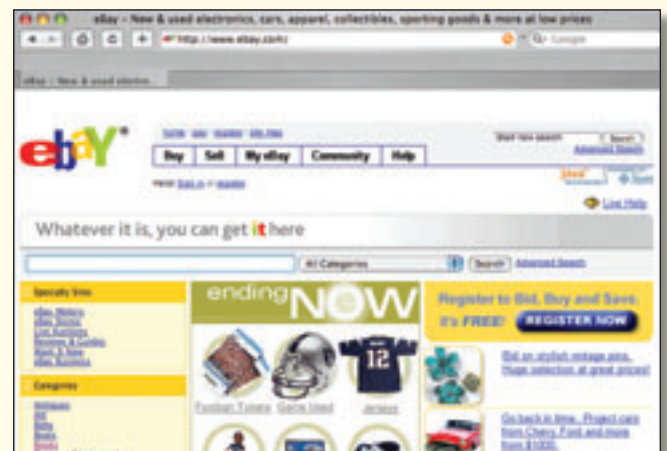
**voluntary exchange:** a transaction in which a buyer and a seller exercise their economic freedom by working out their own terms of exchange

 **Reading Check** **Explaining** How are prices set in a market economy?



 **C. Entertainment** Whenever we pay for entertainment, such as movies, concerts, and ball games, we are participating in a market.

 **D. Internet Shopping** Over the last several years, the Internet has created a huge virtual market, home to millions of buyers and sellers.



### Economic Analysis

**Making Comparisons** What characteristics do all these examples of markets have in common?



# The Law of Demand

**Main Idea** The law of demand states that as price goes up, quantity demanded goes down, and vice versa.

**Economics & You** Can you think of a common household item that was once very expensive but is now much cheaper? Read on to find out how demand affects the prices of items you buy and use every day.

*Demand*, in economic terms, represents all of the different quantities of a good or service that consumers will purchase at various prices. It includes both the willingness and the ability to pay. A person may say he or she wants a new DVD. Until that person is both willing *and able* to buy it, however, no demand for DVDs has been created by that individual.

The **law of demand** explains how people react to changing prices in terms of the quantities demanded of a good or service. (See **Figure 7.2**.) There is an *inverse*, or opposite, relationship between quantity demanded and price. For example, if the price of a DVD is \$15 many people will buy it. If the price went up to \$20 fewer people would buy it, but many people who wanted the DVD would still buy it. Only a few people would buy the DVD if the price went up to \$75. This example shows how the law of demand works.

Several factors explain the inverse relation between price and **quantity demanded**, or how much people will buy of any item at a particular price. These factors include real income, possible substitutes, and diminishing marginal utility.

**law of demand:** economic rule stating that the quantity demanded and price move in opposite directions

**quantity demanded:** the amount of a good or service that a consumer is willing and able to purchase at a specific price

**Figure 7.2 The Law of Demand**

■ Consumers react to price changes.



### Economic Analysis

**Determining Cause and Effect** What happens to the demand for an item if the price goes down?



**Real Income Effect** No one—not even the wealthiest person in the world—will ever be able to buy everything he or she might possibly want. People’s incomes limit the amount they are able to spend. Individuals cannot keep buying the same quantity of a good if its price rises while their income stays the same. This concept is known as the **real income effect** on demand. It forces consumers to make trade-offs.

Suppose that you normally fill your car’s gas tank twice a month, spending \$40 each time. If the price of gasoline rises, you may have to spend \$50 each time. If the price continues to rise while your income does not, eventually you will not be able to fill the gas tank twice per month because your *real income*, or purchasing power, has dropped. To keep buying the same amount of gasoline, you would need to cut back on buying other things. The real income effect forces you to make a trade-off in your gasoline purchases. The same is true for every item you buy, particularly those you buy regularly.

The real income effect works in the opposite direction, too. If you are already buying \$80 worth of gas each month, and the price of gas drops dramatically, your real income increases. You will have more purchasing power and will be able to spend the extra amount you save on gas on other things you want to buy.

**Substitution Effect** Suppose there are two items that are not exactly the same but which satisfy basically the same need. Their cost is about the same. If the price of one falls, people will most likely buy it instead of the other, now higher-priced, good. If the price of one rises in relation to the price of the other, people will buy the now lower-priced good. This principle is called the **substitution effect**.

Suppose, for example, that you listen to both CDs and downloaded music. If the price of CDs rises dramatically, you will probably buy more music downloads and fewer CDs. **Alternately**, if the price of music downloads increases, you will probably buy more CDs. If the prices of CDs and music downloads both increase, you will most likely buy fewer of each and look for other ways to listen to music—for example, you may start listening to the radio or borrowing CDs from the library.



### Real Income Effect

If the price of gasoline rises but your income does not, you obviously cannot continue buying the same amount of gasoline and everything else you normally purchase.

**real income effect:** economic rule stating that individuals cannot keep buying the same quantity of a product if its price rises while their income stays the same

**substitution effect:** economic rule stating that if two items satisfy the same need and the price of one rises, people will buy more of the other





**utility:** the ability of any good or service to satisfy consumer wants

**marginal utility:** an additional amount of satisfaction

**law of diminishing marginal utility:** rule stating that the additional satisfaction a consumer gets from purchasing one more unit of a product will lessen with each additional unit purchased

**Diminishing Marginal Utility** Almost everything that people like, desire, use, or think they would like to use, gives satisfaction. The term that economists use for satisfaction is *utility*. **Utility** is defined as the power that a good or service has to satisfy a want. Based on utility, people decide what to buy and how much they are willing and able to pay at any given time. In deciding to make a purchase, consumers think about the amount of satisfaction, or use, they think they will get from whatever item they are thinking about buying.

Consider the utility that can be derived from buying a cold soft drink at a baseball game on a hot day. At \$4 per cup, how many will you buy? That decision depends on the additional utility, or satisfaction, you expect to receive from each additional soft drink. Your *total* satisfaction will rise with each one bought. The amount of *additional* satisfaction, or **marginal utility**, however, will lessen with each additional cup bought. This example illustrates the **law of diminishing marginal utility**.

At some point, you will stop buying soft drinks. Maybe you don't want to wait in line, or perhaps you are no longer thirsty.



### Diminishing Marginal Utility

Regardless of how satisfying the first taste of an item is, additional satisfaction declines with additional consumption. Assume, for example, that at a price of \$3.00 per bag of peanuts, you have enough after buying two bags. Thus, the value you place on additional satisfaction from a third bag of peanuts would be less than \$3.00. According to what will give you the most satisfaction, you will spend the \$3.00 on something else. Eventually you would receive no additional satisfaction from more peanuts, even if the vendor gave them to you for free.

## ZITS



▲ As the cartoon shows, people often confuse wants with needs.

At that point, the satisfaction you get from the drink is less than the value you place on its cost. In general, people stop buying an item when the satisfaction from the next unit of the same item becomes less than the price they must pay for it.

What if, after the fifth inning, the price of soft drinks drops to \$3? You might then buy at least one additional drink. Why? Remember, people will continue buying an item to the point at which the satisfaction from the last unit bought is equal to the price. At that point, people will stop buying. As the price of an item decreases, however, people will generally buy more.

### Skills Handbook

See page R36 to learn about *Determining Cause and Effect*.

**Reading Check** **Explaining** What happens to the quantity demanded for an item if the price of the item goes up?

## section 1 Review

### Vocabulary

- 1. Explain** the significance of: demand, supply, market, voluntary exchange, law of demand, quantity demanded, real income effect, substitution effect, utility, marginal utility, law of diminishing marginal utility.

### Main Ideas

- 2. Determining Cause and Effect** Create a chart like the one below to show how each cause listed influences the quantity demanded for a given product or service.

Cause	Effect on Quantity Demanded
Increase in real income	
Decrease in real income	
Price of substitutes	
Utility	

### Critical Thinking

- 3. The BIG Ideas** Think about what you have learned about diminishing marginal utility. Then think of three examples from your own experience, and explain how they demonstrate this concept.
- 4. Contrasting** Describe the difference between the real income effect and the substitution effect.

### Applying Economics

- 5. Real Income Effect** Imagine that you make \$1,000 per month at a part-time job. Make a budget for yourself that lists how much you spend on food, clothing, gas, entertainment, etc. Now imagine that the price of gas rises by \$1 per gallon. How will this affect your budget? Revise your budget to include this price change.

## IT'S A WHAT?

The latest craze among dog fanciers: Poodles crossed with other breeds.

**Check It Out!** In this chapter you learned how demand can increase as tastes and preferences change. In the following article, read to learn how a new breed of dog has created explosive demand.

Roll over, rover: Make room for doodles, the latest designer dogs—a mix of a poodle with another breed. The most popular hybrids are goldendoodles (golden retriever mix), Labradoodles (Labrador retriever), schnoodles (schnauzer), and cockapoos (cocker spaniel).

Aside from their shaggy good looks and friendliness, doodles are in demand because they usually don't shed. "If you've ever lived with a golden or Lab, there's a lot of hair," says Rochelle Sundholm, owner of Spring Creek Labradoodles in Willamette Valley, Oregon. Another plus: They have poodle smarts without the stereotypical frou-frou

### Top Dog

If trends are any indication, the high demand for the Labradoodle is no surprise! Check out the most popular breeds of the last several decades.



Labrador Retriever

#### Most Popular Dog Breeds

1950s	Beagle
1960s and 1970s	Poodle
1980s	Cocker Spaniel
1990s to present	Labrador Retriever

Source: American Kennel Club, 2006.



A goldendoodle is a mix of a poodle and a golden retriever.

yappiness. But doodles aren't standardized, so there's a lot of variability in appearance, personality, health—and price....

The American Kennel Club (AKC) doesn't recognize doodle crossbreeds—and may not for a long time. "The reason people pay thousands of dollars for a purebred dog is for the hundreds, if not thousands, of years of pedigree," says AKC spokeswoman Daisy Okas. Yet doodle pups fetch pedigree prices—anywhere from \$400 to \$3,000.

—Reprinted from *BusinessWeek*

#### Think About It

- Explaining** How are doodle dogs different from other breeds of dogs?
- Synthesizing** Why did demand for the newer breeds of doodle dogs grow so quickly? How did this affect the price of doodle dogs compared to the price of other non-AKC-accredited dogs?

# The Demand Curve and Elasticity of Demand

## GUIDE TO READING

### Section Preview

In this section, you will learn more about the relationship between price and demand.

### Content Vocabulary

- demand schedule (p. 179)
- demand curve (p. 179)
- complementary good (p. 181)
- elasticity (p. 182)
- price elasticity of demand (p. 182)
- elastic demand (p. 183)
- inelastic demand (p. 183)

### Academic Vocabulary

- visual (p. 178)
- concept (p. 178)
- specific (p. 180)

### Reading Strategy

**Identifying** As you read, complete a web diagram like the one below by listing the factors that contribute to the elasticity of demand for a good or service.



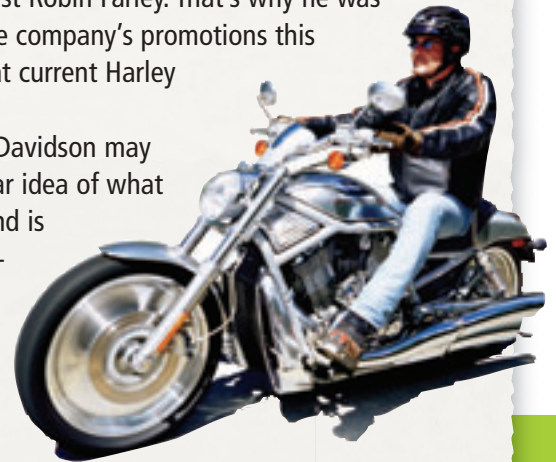
## COMPANIES In The News

—from *USA Today*

**A DEMAND GLUT?** In [the past], Harley-Davidson has had a far greater demand for its products than supply. Dealers often have had long lists of buyers waiting for motorcycles. Recently, however, the company says the gap between supply and demand has been closing. It said its plans to cut production by 10,000 vehicles will help keep demand greater than supply.

... To reach its sales goals, Harley-Davidson needs to attract new customers, says UBS Investment Research analyst Robin Farley. That's why he was surprised at the company's promotions this winter aimed at current Harley owners.

... Harley-Davidson may not have a clear idea of what the true demand is for its motorcycles. Long waiting lists made it seem like the growth rate would be higher than it is turning out to be.



In Section 1, you learned that quantity demanded is based on price. Demand, however, can be affected by a variety of factors, including changes in general economic conditions, the existence and price of substitutes, and changes in people's tastes and preferences. Some of these other factors might explain the recent decrease in demand for Harley-Davidson motorcycles.



# Graphing the Demand Curve

## Economics ONLINE

### Student Web Activity

Visit the *Economics Today and Tomorrow* Web site at [glencoe.com](http://glencoe.com) and click on **Chapter 7—Student Web Activities** to see how changes in population affect demand.

**Main Idea** A demand curve is a graph that shows the relationship between the price of an item and the quantity demanded.

**Economics & You** If the price of a movie ticket suddenly went up to \$20, how often would you go to the movies? What if the ticket price dropped to 50 cents? Read on to learn how this relationship between price and demand can be illustrated visually.

How can you learn to distinguish between a change in quantity demanded and a change in demand? And how do economists show these relationships in a **visual** way? It is said that a picture is worth a thousand words. In economics, the “picture” is often a graph that shows the relationship between two statistics or **concepts**.

The law of demand can be graphed. As you learned in Section 1, the relationship between the quantity demanded and price is inverse—that is, as the price of a good or service goes up, the quantity demanded goes down, and as the price goes down, the quantity demanded goes up.

Take a look at *Table A* and *Graph B* in **Figure 7.3**. These graphs show how the price of a particular good affects the quantity

### Skills Handbook

See page R51 to learn about *Using Tables and Charts*.

## Figure 7.3 Graphing the Demand Curve

■ Note how the table and the graph each use a different format to show the same thing. Each shows the law of demand—as price falls, quantity demanded increases. Also, note that in Graph B we refer to the quantity of DVDs demanded per year. We could also have used a time period of one day, one week, one month, two years, etc.

**Table A. Demand Schedule**

The numbers in this demand schedule show that as the price per DVD decreases, the quantity demanded increases.

A Demand Schedule		
Price per DVD	Quantity Demanded (in millions)	Points in Graph B
\$20	100	A
\$18	300	B
\$16	500	C
\$14	700	D
\$12	900	E
\$10	1,100	F



demanded at each price. *Table A* is a **demand schedule**—a table of prices and quantity demanded. The numbers show that as the price of DVDs decreases, the quantity demanded increases. For example, at a cost of \$20 each, 100 million DVDs will be demanded. When the cost decreases to \$12 each, 900 million DVDs will be demanded.

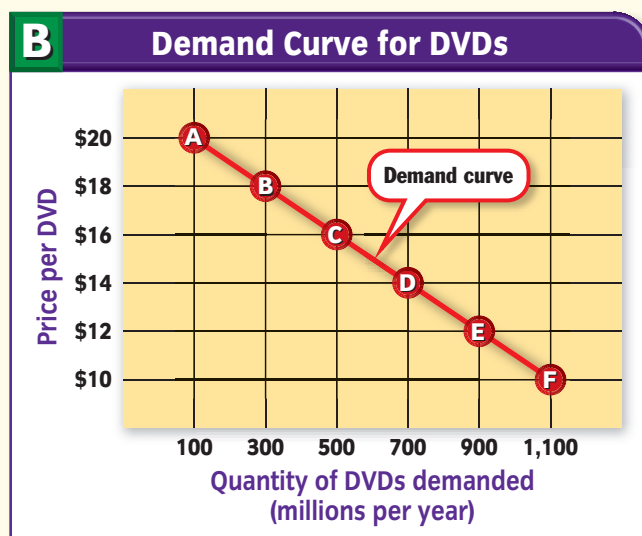
In *Graph B*, the numbers from the schedule in *Graph A* have been plotted onto a graph. The bottom (or horizontal) axis shows the quantity demanded. The side (or vertical) axis shows the price per DVD. Each pair of figures showing price and quantity demanded represents a point on the graph. These points are labeled A through K.

Finally, the line connecting points A through K is the **demand curve**. A demand curve shows the quantity demanded of a good or service at each possible price. Demand curves slope downward (that is, they fall from the left to the right). When you study *Graph B*, you can see clearly the inverse relationship between price and quantity demanded. As price falls, quantity demanded increases, and vice versa.

**demand schedule:** table showing quantities demanded at different possible prices

**demand curve:** downward-sloping line that shows in graph form the quantities demanded at each possible price

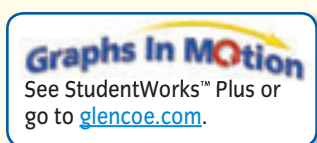
**Reading Check** **Determining Cause and Effect** What causes a change in quantity demanded? How can this be shown visually using a demand curve?



**Graph B. Demand Curve**  
Here, the price and quantity demanded numbers from the demand schedule have been plotted on a graph and connected with a line. This line is the *demand curve*, which always falls from left to right.

**Economic Analysis**

**Using Graphs** According to the demand curve, how many DVDs will be demanded at a price of \$12 each?





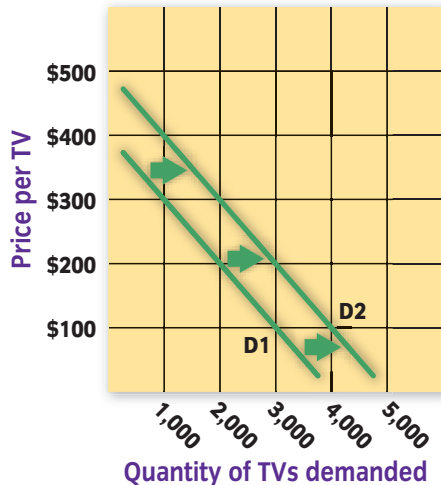
# Determinants of Demand

**Main Idea** A change in the demand for a particular item shifts the entire demand curve to the left or right.

**Economics & You** Think of a product or service you used to buy a lot of but don't anymore. Did this happen because of changing trends, a change in your income, or something else? Read on to learn about various factors that affect demand.

Many factors can affect demand for a **specific** product or service. Among these factors are changes in population, changes in income, changes in people's tastes and preferences, the availability and price of substitutes, and the price of complementary goods.

## If Population Increases

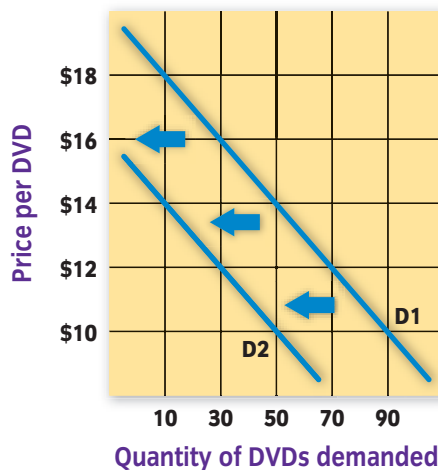


## Changes in Population

When population increases, opportunities to buy and sell increase. Naturally, the demand for most products then increases. This means that the demand curve for, say, flat-screen televisions, shifts to the right. At each price, more flat-screen televisions will be demanded simply because the consumer population increases. This concept is shown in the graph on the left. The demand curve labeled D1 represents demand for televisions before the population increased. The demand curve labeled D2 represents demand after the population increased.

In contrast, if population decreases, overall demand for products also decreases. At each price, fewer flat-screen televisions will be demanded. When this happens, the demand curve shifts to the left.

## If Income Decreases



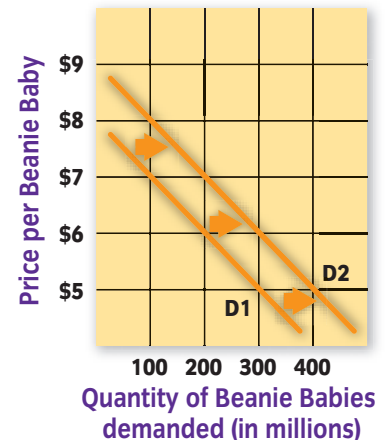
## Changes in Income

The demand for most goods and services depends on income. Your demand for DVDs would certainly decrease if your income dropped in half and you expected it to stay there. You would buy fewer DVDs at all possible prices. In the graph on the left, the demand curve D1 represents your demand for DVDs before your income dropped, and the demand curve D2 represents your demand for DVDs after your income dropped. If your income went up, however, you might buy more DVDs even if the price of DVDs doubled. Buying more DVDs at all possible prices would shift the demand curve to the right.



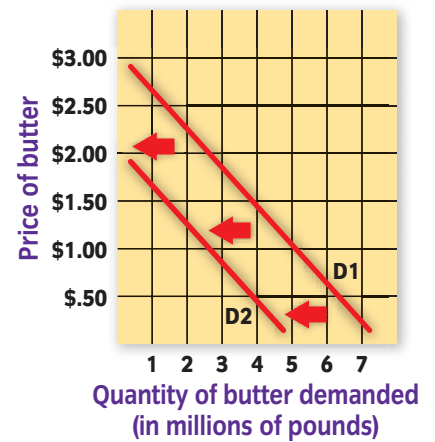
**Changes in Tastes and Preferences** One of the key factors that determine demand is people's tastes and preferences. Tastes and preferences refer to what people like and prefer to choose. When a product becomes a fad, more of the products are demanded and sold at every possible price. The demand curve then shifts to the right, as shown in the graph on the right. In the early 1990s, when Beanie Babies became a fad, the demand curve shifted from D1 to D2. As the popularity of this product died down, its demand curve then shifted back to the left.

**If Preferences Change**



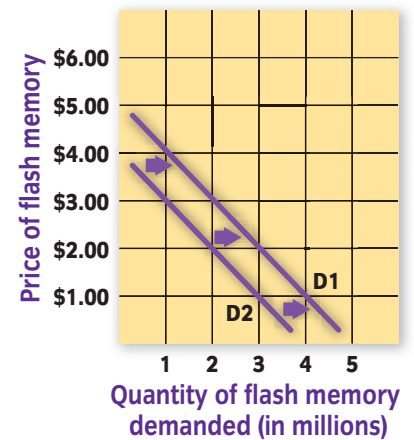
**Substitutes** As you learned in Section 1, substitutes are goods used in place of one another. The availability and price of substitutes also affect demand. For example, people often think of butter and margarine as substitutes. Suppose that the price of butter remains the same and the price of margarine falls. People will then buy more margarine and less butter at all prices of butter. This shift in the demand curve for butter is shown in the graph on the right. If, in contrast, the price of the substitute (margarine) increases, the demand for the original item (butter) also increases.

**If Price of Substitute Decreases**



**Complementary Goods** Complements are products that are generally bought and sold together. Digital cameras and flash memory, for example, are **complementary goods**. When two goods are complementary, the decrease in the price of one will increase the demand for it as well as its complementary good. If the price of digital cameras drops, for example, people will probably buy more of them. They will also probably buy more flash memory to use with the cameras. Therefore, a decrease in the price of digital cameras leads to an increase in the demand for flash memory. As a result, the demand curve for flash memory will shift to the right, as shown in the graph on the right. The opposite would happen if the price of digital cameras increased. In this case, the demand for the complement, flash memory, would decrease, and the demand curve would shift to the left.

**If Price of Complement Decreases**



**Reading Check** Explaining Why does a change in population affect the demand curve?

**complementary good:** a product often used with another product





# The Price Elasticity of Demand

**Main Idea** Elasticity of demand measures how much the quantity demanded changes when price goes up or down.

**Economics & You** Do rising gas prices affect how much gas you are willing to buy? If not, then your demand for gas is inelastic. Read on to learn about price responsiveness, or elasticity.

**elasticity:** economic concept dealing with consumers' responsiveness to an increase or decrease in the price of a product

**price elasticity of demand:** economic concept that deals with how much demand varies according to changes in price

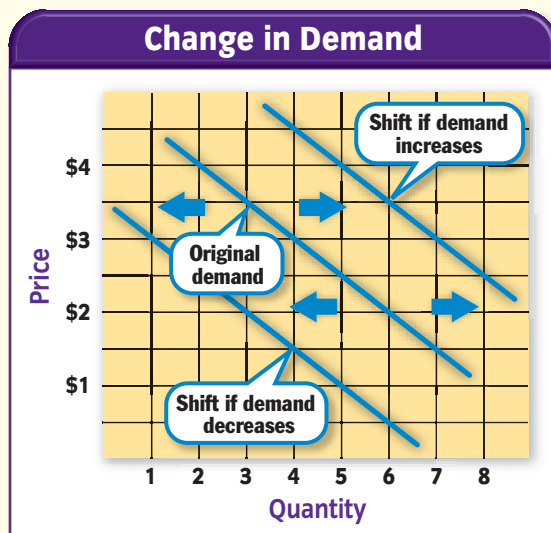
The law of demand is straightforward: The higher the price charged, the lower the quantity demanded—and vice versa. If you sold DVDs, how could you use this information? You know that if you lower prices, consumers will buy more DVDs. By how much should you lower the price, however? You cannot really answer this question unless you know how responsive consumers will be to a decrease in the price of DVDs. Economists call this price responsiveness **elasticity**. The measure of the **price elasticity of demand** is *how much* consumers respond to a given change in price.

## Figure 7.4 Demand vs. Quantity Demanded

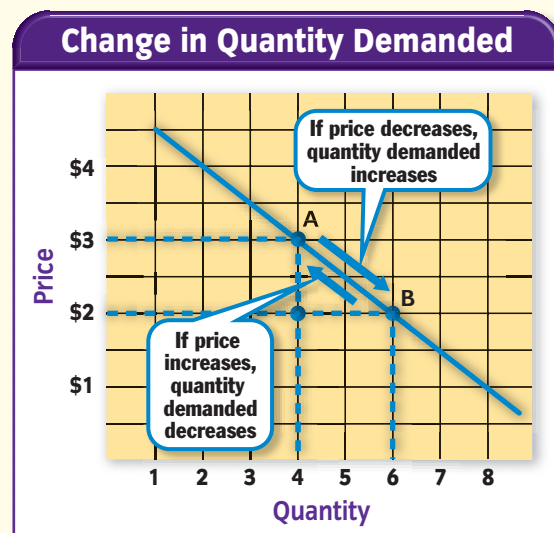
Remember that there is a difference between a change in *demand* and a change in *quantity demanded*.

### Graph B. Change in Quantity Demanded

This is caused by a change in the price of a good, and it is shown as a movement *along* the demand curve.

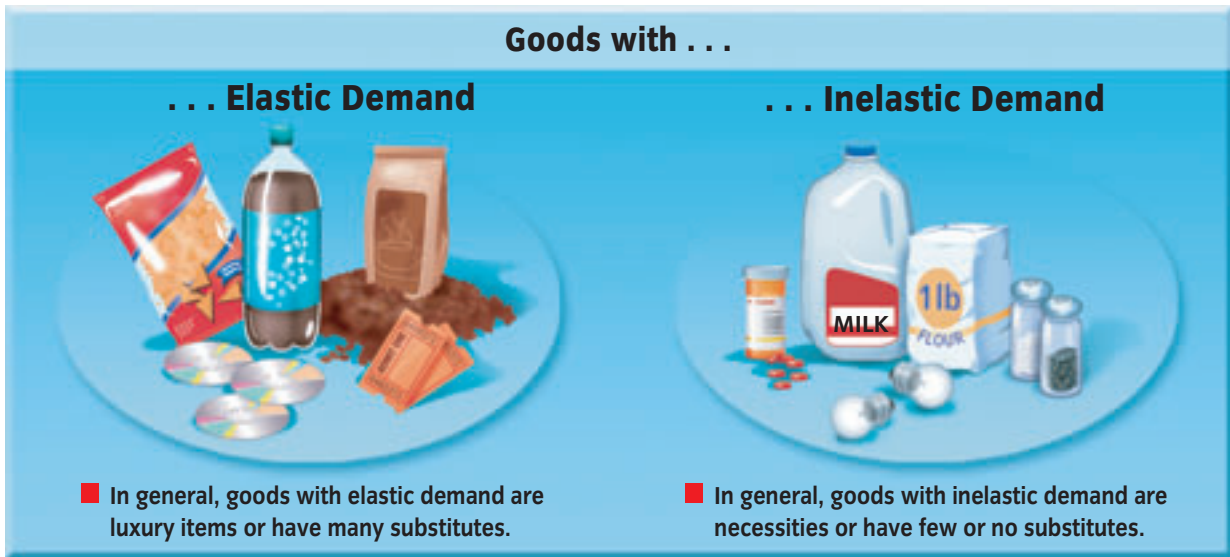


**Graph A. Change in Demand** This is caused by something other than a change in the product's price, and it causes the entire demand curve to shift to the left or right.



### Economic Analysis

**Determining Cause and Effect** Which graph would be affected by the price of substitutes?



**Elastic Demand** For some goods, a rise or fall in price greatly affects the amount people are willing to buy. The demand for these goods is considered *elastic*—consumers can be flexible about buying or not buying these items. For example, specific brands of coffee probably have a very **elastic demand**. Consumers consider the many competing brands of coffee to be almost the same. A small rise in the price of one brand will probably cause many consumers to purchase the cheaper substitute brands instead.

Another example of goods that are generally considered to have elastic demand are luxury items. Luxury items are things people might want but do not really need to survive. Expensive cars, high-end electronic items, and exotic vacations are all examples of luxury items. Some foods, especially expensive foods such as steak and lobster, are also considered luxury items. Because people do not need these things to survive, the demand for them is usually elastic.

**Inelastic Demand** If a price change does not result in a substantial change in the quantity demanded, then demand for that particular good is considered *inelastic*. This means that consumers are usually not flexible with these items and will purchase some of the items no matter what they cost. In general, goods that are considered necessities, such as staple foods, spices like salt and pepper, and certain types of medicine, normally have **inelastic demand**.

Note that by using two demand curves together in one diagram—as shown in **Figure 7.5** on page 184—you can compare a relatively inelastic demand with a relatively elastic demand at a particular price.

**elastic demand:** situation in which a given rise or fall in a product's price greatly affects the amount that people are willing to buy

**inelastic demand:** situation in which a product's price change has little impact on the quantity demanded by consumers



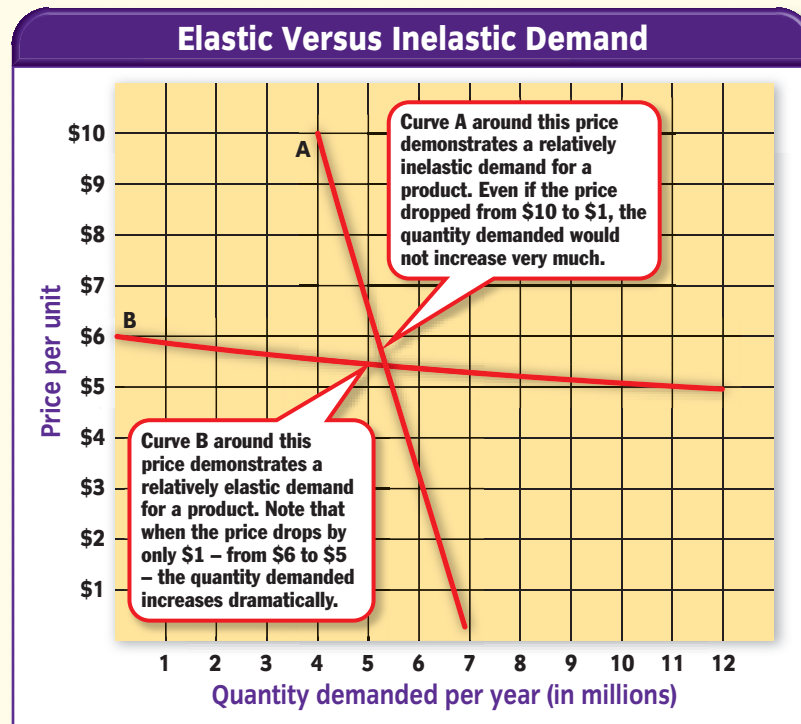
## Figure 7.5 Elasticity of Demand

■ **Curve A** at the price of \$5.50 could represent the inelastic demand for pepper. Even if the price of pepper dropped dramatically, you would not purchase much more of it.

■ **Curve B** at \$5.50 could represent the elastic demand for steaks. If the price drops just a little, many people will buy much more steak.

### Economic Analysis

**Explaining** What determines whether goods have elastic or inelastic demand?



## What Determines Price Elasticity of Demand?

Why do some goods have elastic demand and others have inelastic demand? At least three factors determine the price elasticity of demand for a particular item: the existence of substitutes; the percentage of a person's total budget devoted to the purchase of that good; and the time consumers are given to adjust to a change in price.

Clearly, the more substitutes that exist for a product, the more responsive consumers will be to a change in the price of that good. A diabetic needs insulin, which has virtually no substitutes. The price elasticity of demand for insulin, therefore, is very low—it is inelastic. The opposite is true for soft drinks. If the price of one goes up by very much, many consumers may switch to another.

The percentage of your total budget spent on an item will also determine whether its demand is elastic or inelastic. For example, the portion of a family's budget devoted to pepper is very small. Even if the price of pepper doubles, most people will keep buying about the same amount. The demand for pepper, then, is relatively inelastic. Housing demand, in contrast, is relatively elastic because it represents such a large proportion of a household's yearly budget.

### Personal Finance Handbook

See pages R4–R5 to learn more about **budgeting**.



Finally, people take time to adjust to price changes, and this time period also affects demand elasticity. If the price of electricity were to rise drastically tomorrow, you would have a hard time adjusting your behavior immediately. You would still need to use about the same amount of electricity as you used yesterday. Your demand for electricity, therefore, is inelastic.

As more time goes by, however, you will be able to adjust the amount of electricity you use, gradually using less and less. Maybe you start using light bulbs with lower wattages, or you get used to a warmer house in the summer and a colder house in the winter, or you add insulation to your attic. The longer the time allowed to reduce the amount of electricity you use, the greater the price elasticity of demand for electricity will be for you.

### What Affects Demand Elasticity?

- ◆ Availability and price of substitutes
- ◆ How much of your budget you spend on the good
- ◆ Amount of time you have to adjust to a change in price

**Reading Check** Explaining Why is the consumer demand for pepper relatively inelastic?

## section 2

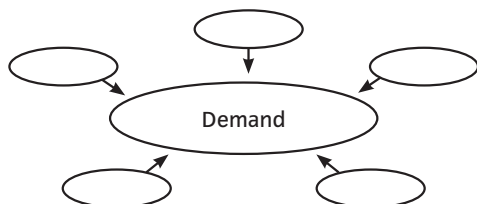
# Review

### Vocabulary

- Explain** the significance of: demand schedule, demand curve, complementary good, elasticity, price elasticity of demand, elastic demand, inelastic demand.

### Main Ideas

- Describing** What does a demand curve show?
- Identifying** Create a diagram like the one below to show the determinants of demand.



### Critical Thinking

- The BIG Ideas** If the price of Coca-Cola suddenly rose, what would happen to the demand for Pepsi? Why?
- Contrasting** Explain the difference between demand and quantity demanded.

### Applying Economics

- Demand Elasticity** In the United States, is the demand for gasoline elastic or inelastic? Why? Make a chart listing as many situations as you can think of that might affect the demand elasticity of gas.



## section 3

# The Law of Supply and the Supply Curve

### GUIDE TO READING

#### Section Preview

In this section, you will learn more about the relationship between price and supply.

#### Content Vocabulary

- law of supply (p. 187)
- quantity supplied (p. 187)
- supply schedule (p. 188)
- supply curve (p. 189)
- technology (p. 191)
- law of diminishing returns (p. 193)

#### Academic Vocabulary

- incentive (p. 187)
- impose (p. 191)

#### Reading Strategy

**Comparing** Use what you learned in Section 2 and what you read in this section to compare the determinants of supply and demand.

Determinants of Supply and Demand	
Supply	Demand

### PRODUCTS In The NEWS

—from the *Associated Press*

**SECRET SUPPLY** It's late November and gamers, it's cold outside. But a little winter chill won't stop video game lovers from lining up at stores throughout the nation in hopes of being among the first to score Microsoft Corp.'s brand new Xbox 360. . . .

. . . Here's the bad news: Most retailers won't say how many they'll have on launch day—for competitive reasons—and some locations could sell out quickly.

. . . "The supply problems are there in as much as the demand is unbelievable," said Peter Moore, a corporate vice president in charge of marketing for the Xbox. But he denied production problems and dismissed "conspiracy theories," including that the company is purposefully bottlenecking supply to intensify interest. "None of those are true whatsoever," he said.



**A**s you've learned, consumers demand products and services at the lowest possible prices. In contrast, suppliers like Microsoft exist to make a profit—hopefully, a big profit. As you read this section, you'll learn about the law of supply and how it is geared toward making profits.



# Profits and the Law of Supply

**Main Idea** The law of supply states that as price goes up, quantity supplied goes up, and vice versa.

**Economics & You** Would you be willing to work more hours at your job for the same wages? Read on to learn that businesses are only willing to supply more of something if their profits also increase.

To understand how prices are determined, you have to look at both demand and supply—the willingness and ability of producers to provide goods and services at different prices in the marketplace. The **law of supply** states that as the price of a good rises, the quantity supplied generally rises; as the price falls, the quantity supplied also falls. (See **Figure 7.6** below.)

You may recall that with demand, price and quantity demanded move in opposite directions. With supply, a direct relationship exists between the price and **quantity supplied**. A direct relationship means that when prices rise, quantity supplied will rise, too. When prices fall, quantity supplied by sellers will also fall. Thus, a larger quantity will generally be supplied at higher prices than at lower prices. A smaller quantity will generally be supplied at lower prices than at higher prices.

The profit **incentive** is one of the factors that motivate people in a market economy. In the case of supply, the higher the price of a good, the greater the incentive is for a producer to produce more. The higher price not only returns higher revenues from sales but also covers the additional costs of producing more. This concept is the basis of the law of supply.

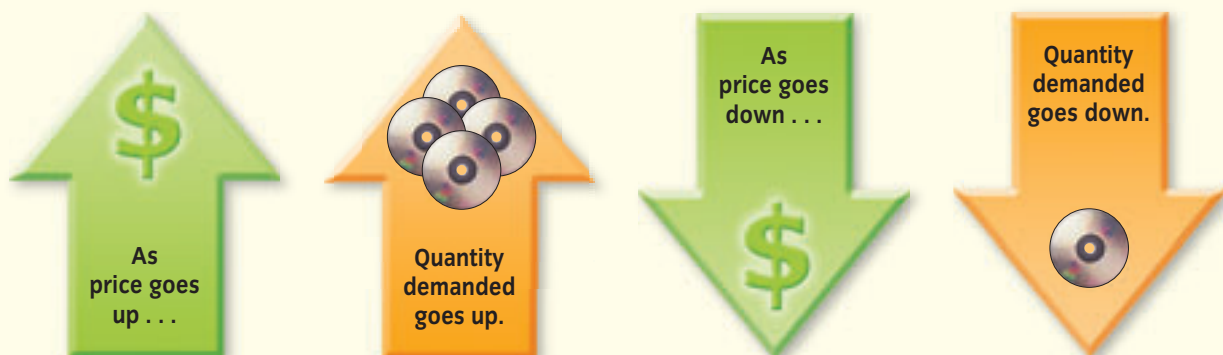
**law of supply:** economic rule stating that price and quantity supplied move in the same direction

**quantity supplied:** the amount of a good or service that a producer is willing and able to supply at a specific price

**Reading Check** Explaining What kind of relationship exists between price and quantity supplied?

**Figure 7.6** The Law of Supply

■ Suppliers react to price changes.





# The Supply Curve

**Main Idea** A supply curve is a graph that shows the relationship between price and quantity supplied.

**Economics & You** How many extra hours would you be willing to work for \$1? For \$100? Read on to learn how the relationship between price and quantity supplied can be illustrated with a supply curve.

Remember that economists show the relationship between price and quantity demanded by using a demand schedule and a demand curve. Similarly, we can use special tables and graphs to illustrate the law of supply visually. (See **Figure 7.7** below.) Using the example of DVD producers, the graphs in this figure show a visual relationship between the price of each DVD and the quantity of DVDs that producers are willing to supply at each price.

*Table A* in **Figure 7.7** is the **supply schedule**, which is a table showing that as the price per DVD increases, the quantity that producers are willing to supply also increases. For example, at a price of \$10 per DVD, only 100 million DVDs will be supplied. When the price increases to \$15 each, however, 600 million DVDs will be supplied.

**supply schedule:** table showing quantities supplied at different possible prices

## Figure 7.7 Graphing the Supply Curve

■ Note how each of the two graphs uses a different format to show the same thing. Each shows the law of supply—as price rises, quantity supplied increases.

### Table A. Supply Schedule

The numbers in this supply schedule show that as the price per DVD increases, the quantity supplied increases. At \$16 each, a quantity of 700 million DVDs will be supplied.

A Supply Schedule		
Price per DVD	Quantity Supplied (in millions)	Points in Graph B
\$10	100	L
\$12	300	M
\$14	500	N
\$16	700	O
\$18	900	P
\$20	1,100	Q




In *Graph B*, the numbers from the schedule in *Table A* have been plotted onto a graph. Note that the bottom (horizontal) axis shows the quantity supplied, and the side (vertical) axis shows the price per DVD. Each intersection of price and quantity supplied represents a point on the graph. We label these points L through V.

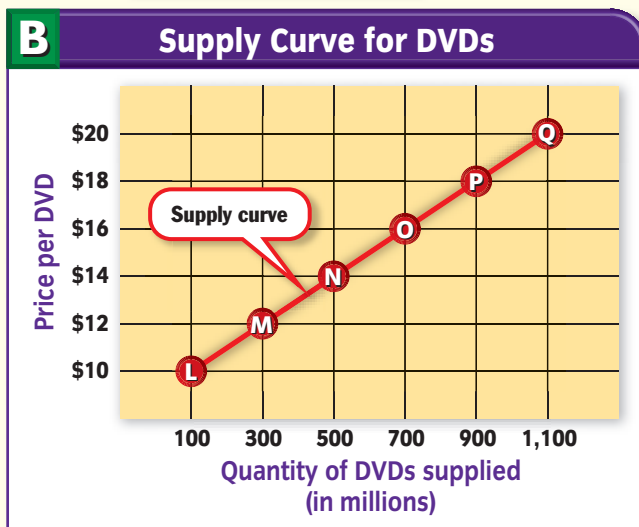
When we connect the points in *Graph B* with a line, we end up with the **supply curve** for DVDs at the particular prices shown. A supply curve shows the quantities that producers are willing to supply at each possible price. It slopes upward from left to right.

You can compare the supply curve to the demand curve in **Figure 7.3** on page 179. In doing so, you will see that the two curves are similar. The main difference between them is that in looking at the supply curve, you can see that the relationship between price and quantity supplied is direct—or moving in the same direction. In the case of the demand curve, the opposite is true—the relationship between price and quantity demanded is inverse. Because of this key point, the slopes of the two curves will always be different.

**supply curve:** upward-sloping line that shows in graph form the quantities supplied at each possible price

 **Reading Check** **Describing** What does a normal supply curve look like?

**Graphs In Motion**  
See StudentWorks™ Plus or go to [glencoe.com](http://glencoe.com).



**Graph B. Supply Curve** Here the price and quantity supplied figures from the supply schedule have been plotted on a graph and connected with a line. This line is the *supply curve*, which rises from left to right.

**Economic Analysis**

**Using Graphs** According to the supply curve, how many DVDs will be supplied at a price of \$14 each?





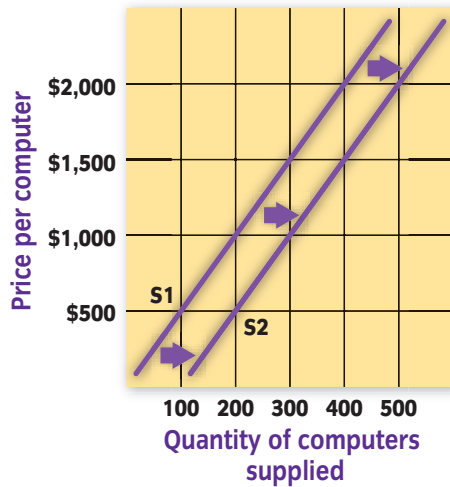
# The Determinants of Supply

**Main Idea** A change in the supply of a particular item shifts the entire supply curve to the left or right.

**Economics & You** Why are iPods so much more common now than they were five years ago? Read on to learn about the factors that affect supply.

Many factors can affect the supply of a specific product. Four of the major determinants of supply (not *quantity supplied*) are the price of inputs, the number of firms in the industry, taxes, and technology.

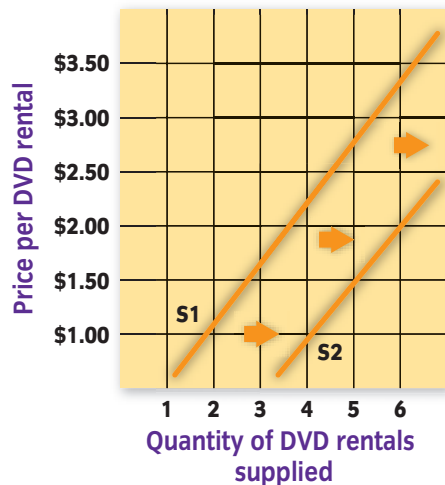
## If Inputs Become Cheaper



**Price of Inputs** If the price of the inputs needed to make a product—raw materials, wages, and so on—drops, a producer can supply more at a lower production cost. This causes the entire supply curve to shift to the right. This situation occurred, for example, when the price of memory chips used in making computers fell during the 1980s and 1990s. Look at the graph on the left. Line S1 shows the supply of computers *before* the price of memory chips fell. Line S2 shows the increased supply of computers *after* the price of memory chips fell. After the price drop, more computers were supplied at any given price than before.

In contrast, if the cost of inputs increases, then the cost of production also increases, and suppliers will offer fewer goods for sale at every possible price.

## If Number of Firms Increases

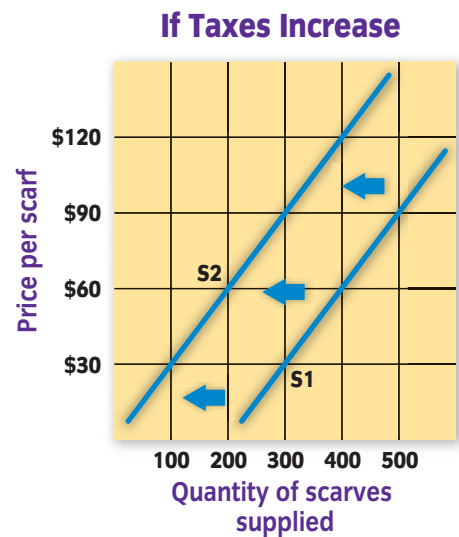


**Number of Firms in the Industry** As more firms enter an industry, greater quantities of their product or service are supplied at every price, and the supply curve shifts to the right. The larger the number of suppliers, the greater the market supply. Consider DVD rentals, for example. If profits from movie and game rentals increase, the number of DVD rental stores supplying these items will increase as well. As more DVD rental stores enter the market, the supply curve for DVD rentals shifts to the right. This shift is shown in the graph on the left.

Conversely, if some suppliers leave the market, fewer quantities of their product or service are supplied at every price, and the supply curve shifts to the left. Sellers in a free-market economy are entering and leaving the market all the time.

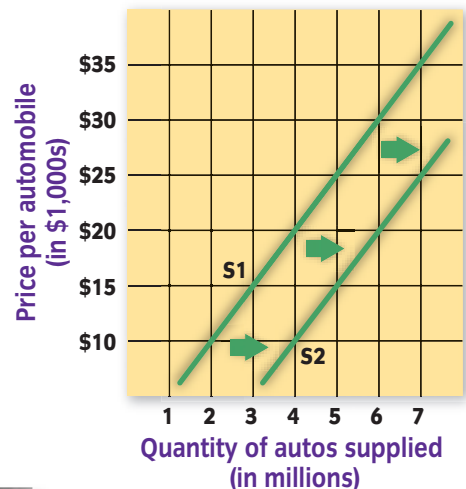


**Taxes** If the government **imposes** more taxes on the production of certain items, businesses will not be willing to supply as much as before because the cost of production will rise. The supply curve for products will shift to the left, indicating a decrease in supply. For example, if taxes on the production of silk scarves increased, businesses that sell silk scarves would supply fewer quantities at each and every price. Look at the graph on the right. Line S1 indicates the supply of silk scarves *before* the government raised taxes on this product. Line S2 equals the supply *after* the government raised taxes. Because of the increased cost of production caused by the taxes, the entire supply curve for silk scarves shifted to the left.



**Technology** The use of science to develop new products and new methods for producing and distributing goods and services is called **technology**. Any improvement in technology will increase supply, as shown in the graph on the right. This is because new technology usually allows suppliers to make more goods for a lower cost. The entire cost of production is cut, and the supply curve shifts to the right.

**If Technology Improves Production**



**Reading Check Analyzing** What happens to the supply curve when production costs increase?

**technology:** the use of science to develop new products and new methods for producing and distributing goods and services



**Advances in Technology**

In the early 1900s, improved technology in the auto-making industry greatly reduced the amount of time and other resources needed to make many new automobiles. Therefore, a larger quantity supplied of autos was offered for sale at every price.



# The Law of Diminishing Returns

**Main Idea** When a business wants to expand, it has to consider how much expansion will really help the business.

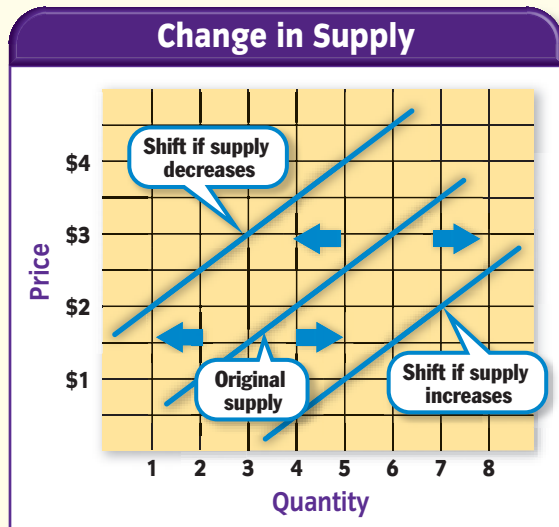
**Economics & You** Have you ever heard the expression, “Too many cooks spoil the soup”? Read on to learn why hiring more workers is not always the best option for businesses.

Imagine that you own a business, and you want to expand production. Assume you have 10 machines and employ 10 workers, and you hire an 11<sup>th</sup> worker. Now, production increases by 1,000 units per week. When you hire a 12<sup>th</sup> worker, however, production increases by only 900 per week. (See **Figure 7.9**.) If you continue to hire more workers, production will continue to increase, but the rate of increase will fall. Maybe there are not enough machines to go around, and perhaps the workers are getting in each other’s way. If you continue to hire still more workers, your overall output will eventually decrease.

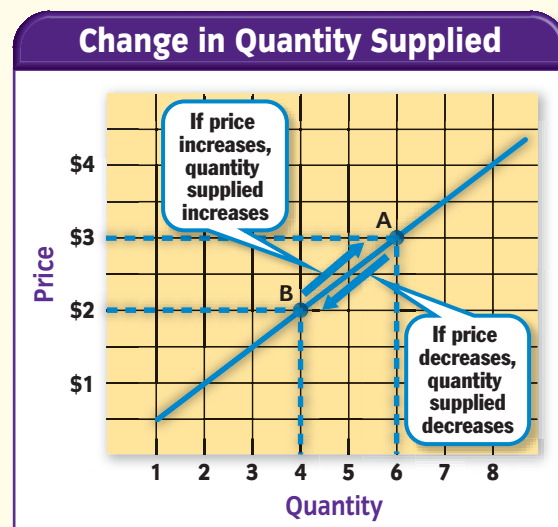
**Figure 7.8 Supply vs. Quantity Supplied**

Remember that there is a difference between a *change in supply* and a *change in quantity supplied*.

**Graph B. Change in Quantity Supplied**  
This is caused by a change in the price of a good, and it is shown as a movement *along* the supply curve.



**Graph A. Change in Supply** This is caused by something other than price, and it causes the entire supply curve to shift to the left or right.



### Economic Analysis

**Determining Cause and Effect** Which graph would be affected by a significant improvement in technology?

## Figure 7.9 Diminishing Returns

Normally after some point, if you are expanding production, the additional workers that you hire do not add as much to total output as the previous workers that you hired. Eventually, adding more workers will not produce additional output.

### Economic Analysis

**Using Tables** If you start with 12 workers and hire 6 more, by how many units will your additional output decrease?



### Diminishing Marginal Returns

Number of Workers	Additional Output
11	1,000
12	900
13	800
14	700
15	600
16	500
17	400
18	300
19	200
20	100
21	0

This example illustrates the **law of diminishing returns**, which says that adding units of one factor of production increases total output. After a certain point, however, the extra output for each *additional* unit hired will begin to decrease.

**Reading Check Explaining** Why is it important for business owners to understand the law of diminishing returns?

**law of diminishing returns:** economic rule that says as more units of a factor of production are added to other factors of production, after some point total output continues to increase but at a diminishing rate

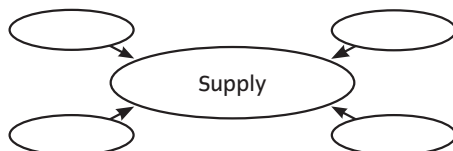
## section 3 Review

### Vocabulary

- Explain** the significance of: law of supply, quantity supplied, supply schedule, supply curve, technology, law of diminishing returns.

### Main Ideas

- Summarizing** Create a diagram like this to list the four determinants of supply.



### Critical Thinking

- The BIG Ideas** How does the incentive of greater profits affect supply?
- Analyzing Visuals** Study the charts on pages 190–191. Which one of the four charts is significantly different from the others? Why?

### Applying Economics

- Synthesizing Information** Imagine that you produce baseball caps and distribute them to local stores. Create a graph showing the various prices and quantities supplied for your caps.

# Putting Supply and Demand Together

## GUIDE TO READING

### Section Preview

In this section, you will learn about how supply and demand interact to affect prices and about restrictions the government sometimes places on this process.

### Content Vocabulary

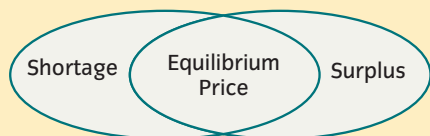
- equilibrium price (p. 195)
- shortage (p. 197)
- surplus (p. 197)
- price ceiling (p. 198)
- rationing (p. 199)
- black market (p. 199)
- price floor (p. 199)

### Academic Vocabulary

- assume (p. 196)
- eliminate (p. 197)

### Reading Strategy

**Describing** As you read this section, use a Venn diagram like the one below to define each of the economic terms listed.



## PRODUCTS In The NEWS

—from *BusinessWeek*

**SEEKING A BALANCE** Demand for Apple's iPod will be huge again this holiday season, no question. The only issue is supply—and how much revenue Apple will forgo because of shortages that look unavoidable.

Circuit City Stores says it expects shortages, and two smaller retailers say they're getting less than half of what they order each week. With demand expected to surge—analysts figure Apple could sell upwards of 10 million iPods in the final quarter—last-minute shoppers could be left with empty stockings.

Of most concern is the iPod Nano. Chief Operating Officer Tim Cook told analysts: "The demand for this product is staggering. At this point I can't project when supply will meet demand."



**W**hat do Beanie Babies, Cabbage Patch Kids, and iPods all have in common? At one point in time, they all were in short supply—and usually right before the December holiday season. Around that time of year, you can often see empty shelves in stores where the hot items have sold out. As you will read, shortages occur when the quantity demanded is larger than the quantity supplied at the current price.



# Equilibrium Price

**Main Idea** In free markets, prices are determined by the interaction of supply and demand.

**Economics & You** When new video game systems first come out, they are often too expensive for most people to buy. What happens to the price of the systems over time? Read on to learn about equilibrium price, the point at which demand and supply meet.

In the real world, demand and supply operate together. As the price of a good goes down, the quantity demanded rises and the quantity supplied falls. As the price goes up, the quantity demanded falls and the quantity supplied rises.

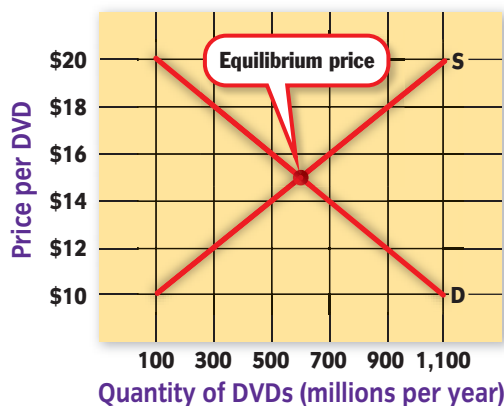
Is there a price at which the quantity demanded and the quantity supplied meet? Yes. This level is called the **equilibrium price**. At this price, the quantity supplied by sellers is the same as the quantity demanded by buyers. One way to visualize equilibrium price is to put the supply and demand curves on one graph, as shown in **Figure 7.10**. Where the two curves intersect is the equilibrium price.

**equilibrium price:** the price at which the amount producers are willing to supply is equal to the amount consumers are willing to buy

**Figure 7.10** Equilibrium Price

■ How does the market reach an equilibrium price? Study the charts. If sellers think the price for DVDs will be \$20, they will produce 1,100 million units, but buyers will purchase only 100 million. To get rid of the surplus, suppose sellers lower the price to \$10 and are willing to supply 100 million DVDs. At this price, 100 million are supplied but 1,100 million are demanded, leaving a shortage. The price tends to change until it reaches equilibrium.

## B Graphing the Equilibrium Price



A Market Demand and Supply Schedules			
Quantity Demanded (millions)	Price	Quantity Supplied (millions)	Surplus/Shortage (millions)
100	\$20	1,100	1,000
200	\$19	1,000	800
300	\$18	900	600
400	\$17	800	400
500	\$16	700	200
600	\$15	600	0
700	\$14	500	-200
800	\$13	400	-400
900	\$12	300	-600
1,000	\$11	200	-800
1,100	\$10	100	-1,000

## Economic Analysis

**Using Graphs** According to the schedule and the graph, what is the equilibrium price and quantity demanded in this example?

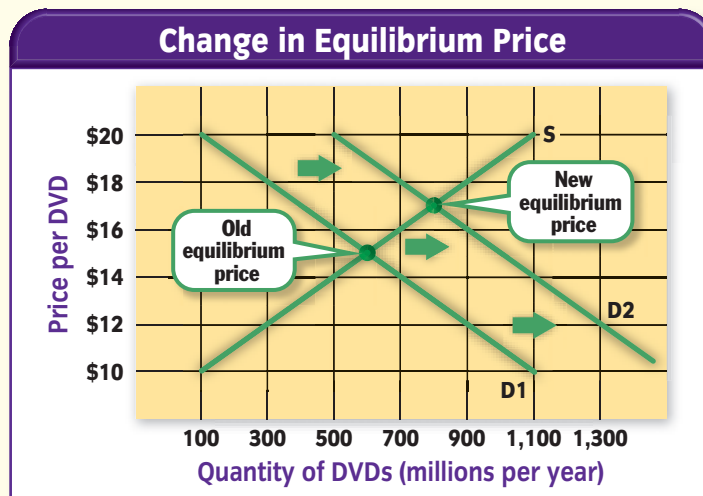


## Figure 7.11 Change in Equilibrium Price

■ When the supply or demand curves shift, the equilibrium price also changes. Note that the old equilibrium price was \$15. But now the new demand curve intersects the supply curve at a higher price—\$17.

### Economic Analysis

**Cause and Effect** What might happen if scientists proved that watching movies decreases life span?



What happens when there is an increase in the demand for DVDs? **Assume** that scientists prove that watching a lot of movies increases life span. This discovery will cause the entire demand curve to shift outward to the right, as shown in **Figure 7.11** above.

What about changes in supply? You can show these in a similar fashion. Assume that there is a major breakthrough in the technology of producing DVDs. The supply curve shifts outward to the right. The new equilibrium price will fall, and both the *quantity supplied* and the *quantity demanded* will increase.

**Reading Check** **Identifying** What is the equilibrium price of a good?

## Prices as Signals

**Main Idea** Under a free-enterprise system, prices function as signals that communicate information and coordinate the activities of producers and consumers.

**Economics & You** Can you think of a recent event that affected the price of an everyday item such as gasoline? Read on to learn about shortages, surpluses, and their effect on prices.

In the United States and other countries with mainly free-enterprise systems, prices serve as signals to producers and consumers. Rising prices signal producers to produce more and consumers to purchase less. Falling prices signal producers to produce less and consumers to purchase more.



**Shortages** A **shortage** occurs when, at the current price, the quantity demanded is greater than the quantity supplied. If the market is left alone—without government regulations or other restrictions—shortages put pressure on prices to rise. At a higher price, consumers reduce their purchases, whereas suppliers increase the quantity they supply.

**shortage:** situation in which the quantity demanded is greater than the quantity supplied at the current price

**Surpluses** At prices above the equilibrium price, suppliers produce more than consumers want to purchase in the marketplace. Suppliers end up with **surpluses**—large, undesired inventories of goods—and this and other forces put pressure on the price to drop to the equilibrium price. If the price falls, suppliers have less incentive to supply as much as before, whereas consumers begin to purchase a greater quantity. The decrease in price toward the equilibrium price, therefore, **eliminates** the surplus.

**surplus:** situation in which quantity supplied is greater than quantity demanded at the current price


**Market Forces** One of the benefits of the market economy is that when it operates without restriction, it eliminates shortages and surpluses. Whenever shortages occur, the market ends up taking care of itself—the price goes up to eliminate the shortage. Whenever surpluses occur, the market again ends up taking care of itself—the price falls to eliminate the surplus. (See **Figure 7.12** below for more information.) Now, let's take a look at what happens to the availability of goods and services when the government—not market forces—becomes involved in setting prices.


 **Reading Check** Explaining What causes shortages and surpluses to eventually disappear?

## Figure 7.12 Shortages & Surpluses

■ Shortages and surpluses can affect the price of a good or service.



 **A. Shortage** Natural disasters, such as floods and hurricanes, can cause temporary shortages of water and other essential goods.

**B. Surplus**  If a business sets the price of a good too high or overestimates demand, it could wind up with a surplus of the good.



### Economic Analysis

**Predicting** What happens to prices during a shortage if the market is left alone?





# Price Controls

**Main Idea** Under certain circumstances, the government sometimes sets a limit on how high or low a price of a good or service can go.

**Economics & You** Do you think there are times the government is justified in setting prices on certain goods and services? Read on to learn why this sometimes happens.

The government sometimes gets involved in setting prices if it believes such measures are needed to protect consumers or suppliers. Also, special interest groups sometimes exert pressure on elected officials to protect certain industries.

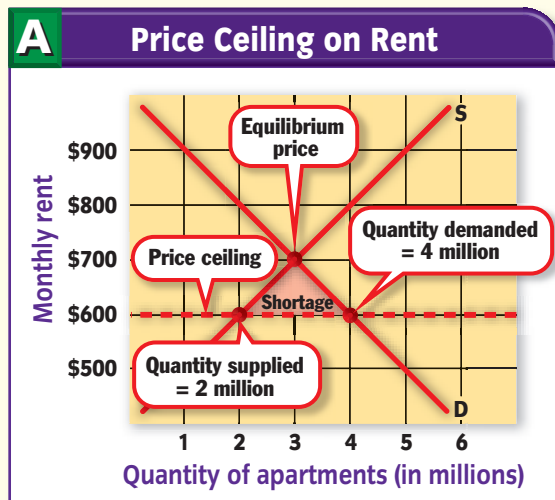
**price ceiling:** a legal maximum price that may be charged for a particular good or service

**Price Ceilings** A **price ceiling** is a government-set maximum price that can be charged for goods and services. For example, city officials might set a price ceiling on what landlords can charge for rent. As *Graph A* of **Figure 7.13** below shows, when a price ceiling is set below the equilibrium price, a shortage occurs.

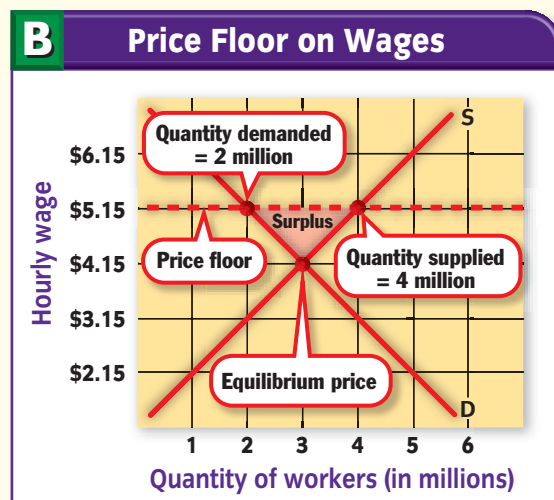
**Figure 7.13 Price Ceilings and Price Floors**

■ When the government gets involved in setting prices, price ceilings or price floors may result.

▼ **Graph B. Price Floor**  
A fast-food restaurant wants to hire students at \$4.15 an hour, but the government has set a minimum wage—a price floor—of \$5.15 an hour.



▲ **Graph A. Price Ceiling**  
More people would like to rent at the government-controlled price, but apartment owners are unwilling to build more rental units if they cannot charge higher rent. This results in a shortage of apartments to rent.



### Economic Analysis

**Using Graphs** What is the surplus of workers when the hourly wage price floor is \$5.15?



### Black Market

Scalpers selling high-priced, limited tickets are part of the black market.

Effective price ceilings—and resulting shortages—often lead to nonmarket ways of distributing goods and services. The government may resort to **rationing**, or limiting, items that are in short supply. Shortages also may lead to a **black market**, in which illegally high prices are charged for items that are in short supply.



**Price Floors** A **price floor**, in contrast, is a government-set minimum price that can be charged for goods and services. Price floors—more common than price ceilings—prevent prices from dropping too low. When are low prices a problem? Assume that about 30 of your classmates all want jobs after school. The local fast-food restaurant can hire 30 students at \$4.15 an hour, but the government has set a minimum wage—a price floor—of \$5.15 an hour. At that wage, not all of you will get hired, which will lead to a surplus of unemployed workers as shown in *Graph B* of Figure 7.13. If the market was left on its own, you and all of your classmates would be working at the equilibrium price of \$4.15 per hour.

**rationing:** the distribution of goods and services based on something other than price

**black market:** “underground” or illegal market in which goods are traded at prices above their legal maximum prices or in which illegal goods are sold

**price floor:** a legal minimum price below which a good or service may not be sold

**Reading Check** **Predicting Consequences** What two problems might be caused by price ceilings?

### Skills Handbook

See page R47 to learn about *Making Predictions*.

## section 4 Review

### Vocabulary

1. **Explain** the significance of: equilibrium price, shortage, surplus, price ceiling, rationing, black market, price floor.

### Main Ideas

2. **Identifying Cause and Effect** Create a diagram like the one below to show how shortages and surpluses affect prices.



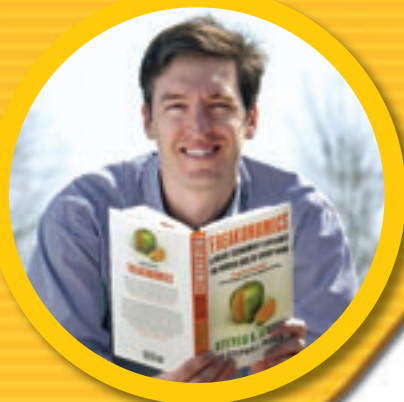
3. **Explaining** How does a shortage of tickets to a professional sports event determine the price of those tickets?

### Critical Thinking

4. **The Big Ideas** How are equilibrium prices determined?
5. **Analyzing Visuals** Look at the charts in Figure 7.13 on page 198. What would happen to the equilibrium price on apartment rentals if the price ceiling was raised to \$700?

### Applying Economics

6. **Extending the Content** In a free-market economy, how much and how often do you believe the government should intervene by setting price floors and ceilings? Why?



## Steven Levitt

### ● Rogue Economist

- Professor of Economics, University of Chicago
- Editor, *Journal of Political Economy*, and Associate Editor, *Quarterly Journal of Economics*
- Author of dozens of articles in scholarly journals

AP Photo/Charles Rex Arbogast

**E**conomics is sometimes called “the dismal science,” but it becomes anything but dismal when filtered through the mind of University of Chicago professor Steven Levitt. The topics that this Harvard-educated economist writes about include teachers who fix test results, sumo wrestlers who throw matches, and drug dealers who live with their mothers. In the process he has become a lightning rod for controversy.

In Levitt’s view, economics is a science with excellent tools for gaining answers but a serious shortage of interesting questions. His particular gift is the ability to ask such questions. When asked why he investigates such problems as cheating sumo wrestlers, he replied, “Because it’s fun. The kind of problems I like are problems which look hard but are easy. Finding cheaters often has that characteristic.”

A popular approach to his research was published in 2005 in a book entitled *Freakonomics: A Rogue Economist Explores the Hidden Side of Everything*, which Levitt cowrote with Stephen J. Dubner. The book refers to

Levitt as a “rogue” economist, meaning he tackles economic issues in an unconventional way. As he explains,

“When the book calls me a rogue, we mean it in the ‘mischievously playful’ sense. . . . The rogue I have in mind is someone who strays from the subjects deemed appropriate for an economist, fails to treat economics with the necessary sense of seriousness. . . .”

### Checking for Understanding

1. **Explaining** According to Levitt, what is the main problem with studying economics?
2. **Analyzing** What is meant by the term “rogue economist,” and why does Levitt consider himself one?

# chapter 7 Visual Summary

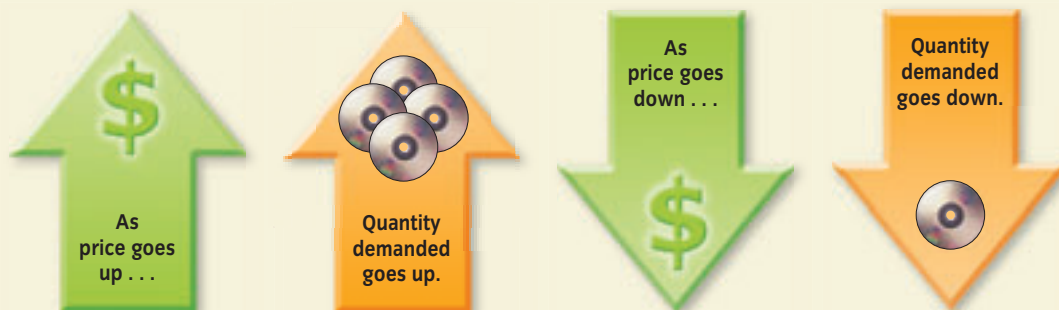


Study anywhere, anytime! Download quizzes and flash cards to your PDA from [glencoe.com](http://glencoe.com).

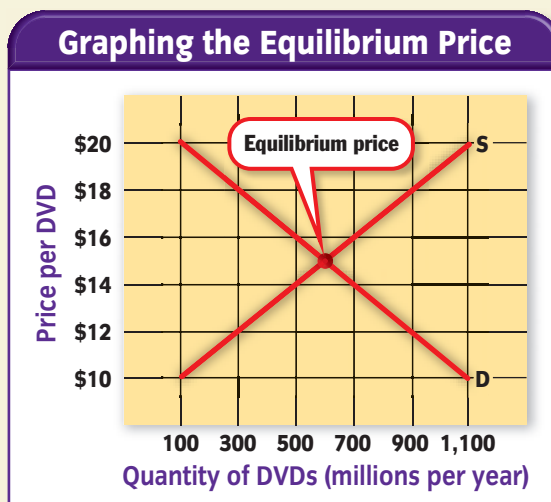
- The **law of demand** states that as price goes up, quantity demanded goes down. As price goes down, quantity demanded goes up.



- The **law of supply** states that as price goes up, quantity supplied also goes up. As price goes down, quantity supplied goes down.



- The point at which the quantity demanded and the quantity supplied meet is called the **equilibrium price**.



## Review Content Vocabulary

1. Write a short paragraph about demand using all of the following terms.

- |                                     |                            |
|-------------------------------------|----------------------------|
| law of demand                       | demand curve               |
| quantity demanded                   | price elasticity of demand |
| law of diminishing marginal utility |                            |

2. Write a short paragraph about supply using all of the following terms.

- |                            |                   |
|----------------------------|-------------------|
| law of supply              | shortage          |
| law of diminishing returns | equilibrium price |
| supply curve               | surplus           |

## Review Academic Vocabulary

Choose the term that best completes each sentence below.

- |           |           |
|-----------|-----------|
| analysis  | incentive |
| alternate | impose    |
| visual    | assume    |
| concept   | eliminate |
| specific  |           |

- Choice is a basic \_\_\_\_\_ in economics.
- In a market economy, producers and consumers \_\_\_\_\_ that the market generally will take care of itself.
- A demand schedule shows the quantities of a good or service that will be demanded at \_\_\_\_\_ prices.
- Opening a business requires careful \_\_\_\_\_ of the market of your potential product or service.
- If the government should \_\_\_\_\_ more taxes, businesses will supply less at all prices because the cost of production will rise.
- In the case of supply, the higher the price of a good, the greater the \_\_\_\_\_ is for a producer to produce more.

- If the price of your favorite soft drink goes up, you may choose to purchase an \_\_\_\_\_ brand.
- If a surplus exists in the marketplace, a movement toward the equilibrium price will \_\_\_\_\_ the surplus.
- A demand schedule shows data about prices and quantities demanded in a \_\_\_\_\_ way.

## Review the Main Ideas

### Section 1 (pp. 169–175)

- What is the basis of most activity in a market economy?
- What generally happens to quantity demanded when the price of a good goes up (and other prices stay the same)?

### Section 2 (pp. 177–185)

- What is the distinction between elastic and inelastic demand?
- If income and population increase, what tends to happen to demand curves? (pp. 186–193)

### Section 3 (pp. 186–193)

- When the price of an item goes up, do suppliers tend to produce more or less of the item? Why?
- What would an increase in taxes do to the position of the supply curve?

### Section 4 (pp. 194–199)

- If the price of a product is above its equilibrium price, what is the result?
- Complete the graphic organizer by listing how producers and consumers act during surpluses and shortages.

	Producers	Consumers
Surpluses		
Shortages		

**Self-Check Quiz** Visit the *Economics Today and Tomorrow* Web site at [glencoe.com](http://glencoe.com) and click on **Chapter 7—Self-Check Quizzes** to assess your knowledge of chapter content.

## Math Practice

**20. Using Graphs** Nancy, the owner of a small café, is trying to set a price for the new sandwich she is offering. In order to do so, she wants to find the equilibrium price. She collects information on how many sandwiches she can expect to sell at different prices. Using the information below, create a graph of the supply and demand curves. Use the graph in **Figure 7.10** on page 195 as an example. After you have created the graph, determine the equilibrium price of the new sandwich.

Nancy's Sandwiches		
Quantity Demanded	Price	Quantity Supplied
1	\$8.00	8
2	\$7.50	7
3	\$7.00	6
4	\$6.50	5
5	\$6.00	4
6	\$5.50	3
7	\$5.00	2
8	\$4.50	1

## Critical Thinking

- 21. The BIG IDEAS** Some prices in the American economy almost never change, whereas others change all the time, even daily. Make a list of products whose prices change slowly, if at all. Make another list of products whose prices change quickly. Finally, write a short paragraph summarizing why prices change slowly or quickly for various products.
- 22. Making Predictions** How do you think the market demand curve for pizza would be affected by (1) an increase in everyone's pay, (2) a successful pizza advertising campaign, (3) a decrease in the price of hamburgers, and (4) new people moving into the community? Explain your answers.
- 23. Making Comparisons** How do you think the price elasticity of demand for DVDs compares to that of insulin needed by diabetics? Why?

## Analyzing Visuals

**24.** Study the cartoon on the right, and then answer the following questions.

- According to the cartoon, why has demand for movies dropped?
- What other reasons could there be for fewer people going to see the movies?
- If demand for movies continues to drop, how will movie producers most likely respond?



# Why are the salaries of professional sports stars so high?

## THE ISSUE

In the 2004–2005 basketball season, the Miami Heat’s Shaquille O’Neal brought in a salary of almost 28 million dollars. Allan Houston of the New York Knicks and Chris Webber of the Philadelphia 76ers each earned over \$17.5 million. Even on the pro basketball league with the lowest median salary, the New Jersey Nets, the players’ average earnings were close to a million dollars. These are very large salaries. Why do professional sports stars make so much money?

## THE FACTS

Have you ever heard people complain about how many important, worthy professions, such as teaching and nursing, are underpaid,

while professional baseball, football, and basketball players often make huge amounts of money? Study the charts below to compare the salaries of the 10 highest-paid NBA players in 2005 with those of 10 common U.S. professions. As you can see, the difference between what a top NBA player makes and what “ordinary Americans” make is huge. Yet, some people would argue that nurses benefit society greatly by saving lives, and teachers have a tremendous impact on the nation’s young people, while basketball players merely provide entertainment. So, from an economic standpoint, how can these salary differences be justified?



The NBA's Highest-Paid Players, 2004-2005

Player	Team	Salary
1. Shaquille O’Neal	Miami Heat	\$27,696,430
2. Allan Houston	New York Knicks	\$17,531,250
3. Chris Webber	Philadelphia 76ers	\$17,531,250
4. Kevin Garnett	Minnesota Timberwolves	\$16,000,000
5. Jason Kidd	New Jersey Nets	\$14,796,000
6. Jermaine O’Neal	Indiana Pacers	\$14,796,000
7. Shareef Abdur-Rahim	Portland Trail Blazers	\$14,625,000
8. Ray Allen	Seattle SuperSonics	\$14,625,000
9. Anfernee Hardaway	New York Knicks	\$14,625,000
10. Zydrunas Ilgauskas	Cleveland Cavaliers	\$14,625,000
Median salary of all NBA players: around \$2,500,000		

Source: usatoday.com.

Median Salaries of 10 Common Professions 2005

Profession	Salary
1. Attorney	\$94,930
2. Nurse	\$52,330
3. High School Teacher	\$43,660
4. Computer Support Technician	\$40,430
5. Restaurant Manager	\$39,610
6. Real Estate Agent	\$35,670
7. Administrative Assistant	\$34,970
8. Social Worker	\$34,820
9. Machinist	\$29,720
10. Child Care Worker	\$14,669

Paul J. Sutton/Duomo/CORBIS



## THE ECONOMIC CONNECTION: SUPPLY AND DEMAND

To a certain extent, all salaries are determined by supply and demand. A high demand for a certain profession, combined with a low supply of people able to perform the job, will generally result in a high salary for the job, and vice versa.

In the case of professional ball players, the law of supply and demand is especially important in setting salaries. The public likes to watch professional sports, and so there is a high demand for professional sports players. However, the number of people who are able to meet the physical and mental challenges of playing professional sports—that is, the supply of players—is relatively small. In this case, the demand exceeds the supply, which drives salaries up.

Also, professional basketball players are usually allowed “free agency”—that is, they are allowed to sell their services to any team willing and able to pay them what they want. When teams really want talented and popular players to play for them, they will bid against

each other for the player, thus driving the players’ potential salaries higher and higher.

Compare that situation with the case of high-school teachers. Although teaching is a very difficult and demanding profession, many more people are able to meet the requirements to become a teacher than are able to play basketball at a professional level. Therefore, even though the nation needs many more teachers than pro ball players, the supply of certified teachers often meets or even exceeds demand—keeping teachers’ salaries relatively low and stable.

## CONCLUSION

Just as the laws of supply and demand interact in the market to determine prices, they also work to determine the salaries of various professions. The first round of the 2005 NBA playoffs was viewed by over 100 million people, demonstrating a high demand for professional basketball players. However, very few people are able to play at the NBA level, so the supply of players is small. Whenever you have a very high demand combined with a very small supply, you will wind up with a very high price—or, as in this case, a Shaq-sized salary.

## Analyzing the Impact

1. **Synthesizing** How do you think players’ salaries would be affected if free agency was not allowed? Why?
2. **Critical Thinking** How do you think the high salaries of ball players affect the ticket prices you pay? What might happen in the market if players’ salaries continue to rise?



◀ Shaquille O’Neal